

## RETROFIT LIGHT EMITTING DIODE TUBE

### CROSS REFERENCE TO RELATED APPLICATION

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This application is a divisional of U.S. Patent Application Serial No. 09/998,274,  
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### BACKGROUND OF THE INVENTION

[0001] The present disclosure relates to light bulbs and in particular, to light bulbs comprised of light emitting diodes.

[0002] There are millions of light fixtures installed and being produced each year to provide both task and general lighting within schools, offices, homes, marine vessels, aircraft and the like. In recent decades, more and more of these applications have been addressed with the use of a fluorescent lamp as the light source. The advent of fluorescent lighting has been shown to be a significant improvement over incandescent light fixtures. Noted advantages are numerous and include a marked reduction in energy consumption for a given light output, reduced operating temperatures and a "cooler" light rendition index.

[0003] Fluorescent lamps are generally characterized as low-pressure arc discharge lamps. A conventional fluorescent lamp commonly used in troffer fixtures is shown in Figure 1. The fluorescent lamp 10 includes an elongated envelope 12, whose internal wall is coated with a phosphor 14, and an electrode structure 16 at each end of the envelope. The envelope 10 also contains a quantity of an ionizable material 18, such as mercury, and a fill gas at low pressure. The fill gas can be, for example argon or